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EXAMINER

NGUYEN, THU HA T

ART UNIT

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2453

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/034,197 | <b>Applicant(s)</b><br>DATTA ET AL. |  |
|                              | <b>Examiner</b><br>THU HA T. NGUYEN  | <b>Art Unit</b><br>2453             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claims **22-40** are presented for examination.
2. Claims 22, 33 and 40 are currently amended.
3. Claims 1-21 are cancelled.

### Response to Arguments

4. Applicant's arguments filed on April 7, 2010 have been fully considered but they are not persuasive.

5. Applicant argues that "parallel" is not the same as "concurrent" as asserted on page 2 of the office action. In response to applicant's argument, the examiner submits that the specification does not teach or disclose "concurrently sending different packets of the message over different network interfaces", and since the specification just broadly discloses the concurrent use of two or more frame relay networks (see application's publication paragraphs 0030, 0044). Moreover, the entire of specification teaches the using or parallel networks and transmitting data between two or more parallel networks. Thus, the examiner has given the reasonable interpretation as the "the data packets are transmitted over different parallel network interfaces". Therefore, in response to applicant's argument, the examiner submits that Kitai does teach three connections are established (5790) and data communication is performed in accordance with **parallel** SEND/RECEIVE as shown in col. 17, line 63-col. 18 line 17.

6. Therefore, the examiner asserts that cited prior art teaches or suggests the subject matter broadly recited in independent claims 22, 33 and 40.

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Claims 23-32, and 34-39 are also rejected at least by virtue of their dependency on independent claims and by other reasons set forth in this office action below.

Accordingly, claims 22-40 are rejected.

### **Claim Rejections - 35 USC § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 33, 35 and 40 are rejected under 35 U.S.C. §102(e) as being anticipated by **Kitai et al.**, (hereinafter Kitai) U.S. Patent No. **5,948,069**.

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9. As to claim **33**, **Kitai** teaches the invention as claimed, including a method for combining connections for access to multiple parallel networks, the method comprising the steps of:

a controller receiving packets of a message sent from a site over a single logical connection, the controller having a site interface, at least two network interfaces, and a packet path selector (abstract, figures 3, 7, 15, 22, col. 2 lines 48-col. 3 lines 42, col. 5 lines 29-57, col. 8, line 54-col. 9, line 50); and

the controller packet path selector selecting between the network interfaces to split the message between parallel networks by concurrently sending different packets of the message over different network interfaces, without requiring firewall usage (figure 17, col. 3 lines 6-42, col. 7, lines 44-55, col. 8, lines 14-25, col. 9, lines 22-33, col. 12, lines 66-col. 13, lines 3, col. 14, line 21-51, col. 16, line 62-col. 18, line 17 *—three connections are established (5790) and data communication is performed in accordance with parallel SEND/RECEIVE* ).

10. As to claim **35**, **Kitai** teaches the method of claim 33, further comprising the step of specifying a load-balancing criterion for use by the packet path selector (abstract, figures 9, 19, col. 8 lines 13-25, col. 14 lines 62-col. 15 lines 8, col. 20 lines 1-col. 21 lines 59).

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11. As to claim **40**, **Kitai** teaches the invention as claimed, including a method for combining connections for access to multiple independent parallel frame relay networks, the method comprising the steps of:

sending packets of a message over a single logical connection to a site interface of a controller, the controller having the site interface which receives packets (abstract, figures 3, 7, 15, 22, col. 2 lines 48-col. 3 lines 42, col. 5 lines 29-57), at least two network interfaces, and a packet path selector which selects between the network interfaces to split the message between the networks by concurrently sending different packets of the message over different network interfaces without requiring firewall usage (figure 17, col. 3 lines 6-42, col. 7, lines 44-55, col. 8, lines 14-25, col. 9, lines 22-33, col. 12, lines 66-col. 13, lines 3, col. 14, line 21-51, col. 16, line 62-col. 18, line 17 – *three connections are established (5790) and data communication is performed in accordance with parallel SEND/RECEIVE*); and

specifying at least one of the following criteria for use by the packet path selector: a reliability criterion, a load-balancing criterion (abstract, figures 9, 19, col. 8 lines 13-25, col. 14 lines 62-col. 15 lines 8, col. 20 lines 1-col. 21 lines 59).

### **Claim Rejections - 35 USC § 103**

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 22, 24-25 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Kitai et al.**, (hereinafter Kitai) U.S. Patent No.

**5,948,069**, in view of **Dutta et al.**, (hereinafter Dutta) U.S Patent No. **6,546,423**.

14. As to claim **22**, **Kitai** teaches the invention as claimed, including a controller which controls access to multiple independent networks in a parallel network configuration, the controller comprising:

a site interface connecting the controller to a site by a single logical connection (abstract, figures 3, 7, 15, 22, 24, elements 3005, 3006);

at least two network interfaces connecting the controller to respective independent parallel networks (figures 3, 22, elements 3000, 3050 and 3074);  
and

a packet path selector which selects between the network interfaces to split a message from the site between the networks by concurrently sending different packets of the message over different network without requiring firewall usage (col. 3 lines 6-42, col. 7, lines 44-55, col. 8, lines 14-25, col. 9, lines 22-33, col. 12, lines 66-col. 13, lines 3, col. 14, line 21-51, col. 17, line 63-col. 18, line 17—*three connections are established (5790) and data communication is performed in accordance with parallel SEND/RECEIVE*);

whereby the controller uses multiple networks to carry different pieces of a given message (figure 17, col. 3 lines 6-42, 14, line 21-51, col. 16, line 62-col. 17, line 19).

However, **Kitai** does not explicitly teach unauthorized interception of message packets on fewer than all of the networks used to carry the message will not provide the total content of the message.

**Dutta** teaches unauthorized interception of message packets on fewer than all of the networks used to carry the message will not provide the total content of the message (abstract, figures 1-2, col. 1 lines 29-64, col. 5 lines 31-54). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Dutta** to include a security feature into **Kitai**'s system because it would improve the data transferring more secure and efficient between networks

15. As to claim **24**, **Kitai** teaches the controller of claim 22, wherein the packet path selector also selects between network interfaces according to a load-balancing criterion, thereby promoting balanced loads on devices that carry packets after the packets leave the selected network interfaces (abstract, figures 9, 19, col. 8 lines 13-25, col. 14 lines 62-col. 15 lines 8, col. 20 lines 1-col. 21 lines 59).

16. As to claim **25**, the combination of **Kitai** and **Dutta** does not explicitly teach wherein the packet path selector also selects between network interfaces according to a reliability criterion, thereby promoting use of devices that will still carry packets after the packets leave the selected network interfaces, when other devices that could have been selected are not functioning. **Pearce**



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teaches wherein the packet path selector also selects between network interfaces according to a reliability criterion, thereby promoting use of devices that will still carry packets after the packets leave the selected network interfaces, when other devices that could have been selected are not functioning (abstract, col. 2 lines 51-col. 3 lines 12). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Pearce** to include private network interfaces and selector to select paths/interfaces according to a reliability criterion because it would have an efficient communication system to control and select the reliable, qualifiable network/interface/path among multiple networks/interfaces/paths.

17. As to claim **29**, **Kitai** teaches the controller of claim 22, wherein the controller operates in a system that utilizes at least one point-to-point connection (col. 10 lines 50-65. col. 16 lines 8-23, col. 17 lines 1-10).

18. Claims 23, 28 and 30-32 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Kitai et al.**, (hereinafter Kitai) U.S. Patent No. **5,948,069**, in view of **Dutta et al.**, (hereinafter Dutta) U.S. Patent No. **6,546,423**, further in view of **Albright et al.** (hereinafter Albright) U.S. Patent No. **6,209,039**.

19. As to claim **23**, the combination of **Kitai and Dutta** does not explicitly teach wherein the controller controls access to multiple independent frame relay networks, and each of the at least two network interfaces comprises

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a frame relay network interface. However, **Albright** teaches wherein the controller control access to multiple independent frame relay networks, and each of the at least two private network interfaces comprises a frame relay network interface (figure 3, col. 6, lines 65-col. 7, lines 3). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Albright** to have the private network interfaces comprises a frame relay network interface because it would provide an efficient communications system that the selection of frame relay network interfaces may vary and dynamically depending on traffic load, failure of links/paths and so on. The system will quickly establish/select another path/link to maintain the levels of service guarantee to subscribers.

20. As to claim **28**, **Kitai and Dutta** teaches the controller of claim 22; however the combination of **Kitai and Dutta** does not explicitly teach wherein the controller comprises at least three frame relay network interfaces, each of which is selectable by the packet path selector. **Albright** teaches wherein the controller comprises at least three frame relay network interfaces, each of which is selectable by the packet path selector (figure 3, col. 6, lines 65-col. 7, line 25). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Albright** to have the private network interfaces comprises a frame relay network interface because it would provide an efficient communications system that the selection of frame relay network interfaces may vary and dynamically depending on traffic

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load, failure of links/paths and so on. The system will quickly establish/select another path/link to maintain the levels of service guarantee to subscribers.

21. As to claim **30**, **Kitai and Dutta** teaches the controller of claim 22; however **Kitai and Dutta** does not explicitly teach wherein the controller operates in a system providing connectivity over at least two frame relay networks from at least two carriers, each frame relay network operating on its own clock which is different from the clock of the other frame relay network. **Albright** teaches the controller operates in a system providing connectivity over at least two frame relay networks from at least two carriers, each frame relay network operating on its own clock which is different from the clock of the other frame relay network (abstract, figures 2-3, 7, col. 10 lines 36-col. 11 lines 9, col. 13 lines 27-52). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Albright** to have at least two frame relay networks from at least two carriers, each frame relay network operating on its own clock which is different from the clock of the other frame relay network because it would have an efficient communications system that provides a number of point-to-point channels with different carriers and clocks through multiplexing network to improve network traffic and failure.

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22. As to claim **31**, the combination of **Kitai and Dutta** does not explicitly teach wherein each network interface is an indirect interface tailored to a particular type of frame relay network. **Albright** teaches each network interface is an indirect interface tailored to a particular type of frame relay network (figure 3, col. 7, lines 6-16). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Albright** to have the process of each private network interface is an indirect interface tailored to a particular type of frame relay network because it would have an efficient communication system to control and select the reliability and dynamically interface/paths among multiple interfaces/paths.

23. As to claim **32**, the combination of **Kitai and Dutta** does not explicitly teach each network interface is a direct interface comprising an Ethernet card. **Albright** teaches wherein each private network interface is a direct interface comprising an Ethernet card (col. 13 lines 38-52). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Albright** to have each private network interface is a direct interface comprising an Ethernet card because it would have an efficient communications system that provide Ethernet card to improve private network security, traffic and failure

24. Claims 26 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Kitai et al.**, (hereinafter Kitai) U.S. Patent No. **5,948,069**, in view of **Dutta et al.**, (hereinafter Dutta) U.S Patent No. **6,546,423**, further in view of **Goldszmidt et al.**, (hereinafter Goldszmidt) U.S Patent No. **6,195,680**.

25. As to claim **26**, the combination of **Kitai and Dutta** does not explicitly teach the controller sends packets out of sequence over the parallel networks. **Goldszmidt** teaches wherein the controller sends packets out of sequence over the parallel networks (abstract, figures 3, 5, col. 14, lines 20-60). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Goldszmidt** to have the private networks and the controller sends packets out of sequence order because would have an efficient communication system to process, control and monitor the delivery of packet to control the traffic load

26. As to claim **27**, the combination of **Kitai and Dutta** does not explicitly teach the controller places an encrypted sequence number in at least some of the packets which are sent out of sequence. **Goldszmidt** teaches wherein the controller places an encrypted sequence number in at least some of the packets which are sent out of sequence (abstract, figure 7, col. 1 lines 45-col. 2 lines 18, col. 15 lines 14-43). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Dutta and Goldszmidt** to have the controller places an encrypted

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sequence number in at least some of the packets which are sent out of sequence because would have an efficient communication system to encrypt packet to improve its tolerance to error, lost and secure

27. Claim 34 is rejected under 35 U.S.C. §103(a) as being unpatentable over **Kitai et al.**, (hereinafter Kitai) U.S. Patent No. **5,948,069**, in view of **Albright et al.** (hereinafter Albright) U.S. Patent No. **6,209,039**.

28. As to claim **34**, **Kitai** teaches the method of claim 33, wherein the packet path selector selects between the network interfaces to split the message between parallel networks (figure 17, col. 16, line 62-col. 17, line 19). However, **Kitai** does not explicitly teach frame relay networks. **Albright** teaches frame relay networks (figure 3, col. 6, lines 65-col. 7, lines 3). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai and Albright** to include frame relay networks because it would provide an efficient communications system that the selection of frame relay network interfaces may vary and dynamically depending on traffic load, failure of links/paths and so on. The system will quickly establish/select another path/link to maintain the levels of service guarantee to subscribers.

29. Claim 36-37 and 39 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Kitai et al.**, (hereinafter Kitai) U.S. Patent No. **5,948,069**, in view of **Pearce et al.**, (hereinafter Pearce) U.S Patent No. **5,910,951**.

30. As to claim **36**, **Kitai** does not explicitly teach the feature of specifying a reliability criterion for use by the packet path selector. **Pearce** teaches the step of specifying the criterion for use by the packet path selector, wherein the specified criterion is a reliability criterion (abstract, col. 2 lines 51-col. 3 lines 12). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai and Pearce** to include the step of specifying the criterion for use by the packet path selector, wherein the specified criterion is a reliability criterion because it would have an efficient communication system to control and select the reliable, qualifiable network/interface/path among multiple networks/interfaces/paths.

31. As to claim **37**, **Kitai** teaches the method of claim 33, further comprising the steps of:

connecting the controller site interface to a site to receive packets of the message from a computer at the site over the single connection (abstract, figures 3, 7, 15, 22, col. 2 lines 48-col. 3 lines 42, col. 5 lines 29-57);

connecting a first network interface of the controller to a first network (abstract, figures 3, 7).

However, **Kitai** does not explicitly teach connecting a second network interface of the controller to a second network which is parallel to and independent of the first network.

**Pearce** teaches connecting a second network interface of the controller to a second network which is parallel to and independent of the first network (abstract, figures 1, 5, col. 1 lines 47-col. 2 lines 60).

It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine features **Pearce** into **Kitai** because it would provide an efficient communications system that the data can be dynamically monitored and routed among links/paths in order to reduce the congestion or failure within the networks.

32. As to claim **39**, the combination of **Kitai and Pearce** teaches the controller sensing failure of one of the parallel networks and automatically sending packets through at least one other parallel network (Pearce, abstract, col. 2 lines 50-col. 3 lines 12, col. 5 lines 33-63). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Pearce into Kitai** to include the feature of sensing failure of one of the parallel networks and automatically sending traffic through at least one other parallel network because it would detect and improve network security, traffic and failure.



33. Claim 38 is rejected under 35 U.S.C. §103 (a) as being unpatentable over **Kitai** U.S. Patent No. **5,948,069**, in view of **Pearce et al.**, (hereinafter Pearce) U.S Patent No. **5,910,951**, further in view of **Albright et al.** (hereinafter Albright) U.S. Patent No. **6,209,039**.

34. As to claim **38**, **Kitai and Pearce** does not explicitly teach connecting a network interface of the controller connects the controller to a User-to- Network Interface in a router of a frame relay network. **Albright** teaches connecting a network interface of the controller connects the controller to a User-to- Network Interface in a router of a frame relay network (abstract, figure1). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of **Kitai, Pearce and Albright** to have a the controller connects the controller to a User-to-Network Interface in a router of a frame relay network because it would improve private network security, traffic and failure.

#### **Conclusion**

35. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory

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action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Ha Nguyen, whose telephone number is (571) 272-3989. The examiner can normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas, can be reached at (571) 272-6776.

The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/THUHA T. NGUYEN/

Primary Examiner, Art Unit 2453

